

25th International Conference on Principles of Distributed Systems

OPODIS 2021, December 13–15, 2021, Strasbourg, France

Edited by

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■ Preface

The papers in this volume were presented at the 25th International Conference on Principles of Distributed Systems (OPODIS 2021), held on December 13–15, 2021 in Strasbourg, France.

OPODIS is an open forum for the exchange of state-of-the-art knowledge about distributed computing. With strong roots in the theory of distributed systems, OPODIS has expanded its scope to cover the entire range between the theoretical aspects and practical implementations of distributed systems, as well as experimental and quantitative assessments. All aspects of distributed systems are within the scope of OPODIS: theory, specification, design, performance, and system building. Specifically, this year, the topics of interest at OPODIS included:

- Biological distributed algorithms
- Blockchain technology and theory
- Communication networks (protocols, architectures, services, applications)
- Cloud computing and data centers
- Dependable distributed algorithms and systems
- Design and analysis of concurrent and distributed data structures
- Design and analysis of distributed algorithms
- Randomization in distributed computing
- Social systems, peer-to-peer and overlay networks
- Distributed event processing
- Distributed operating systems, middleware, and distributed database systems
- Distributed storage and file systems, large-scale systems, and big data analytics
- Edge computing
- Embedded and energy-efficient distributed systems
- Game-theory and economical aspects of distributed computing
- Security and privacy, cryptographic protocols
- Synchronization, concurrent algorithms, shared and transactional memory
- Impossibility results for distributed computing
- High-performance, cluster, cloud and grid computing
- Internet of things and cyber-physical systems
- Mesh and ad-hoc networks (wireless, mobile, sensor), location and context-aware systems
- Mobile agents, robots, and rendezvous
- Programming languages, formal methods, specification and verification applied to distributed systems
- Self-stabilization, self-organization, autonomy
- Distributed deployments of machine learning

We received 70 submissions, each of which underwent a double-blind peer review process. Three submissions were rejected for being out of the scope of the conference or having the wrong format. Overall, the quality of the submissions was very high. From the 70 submissions, 28 papers were selected to be included in these proceedings.

The OPODIS proceedings appear in the Leibniz International Proceedings in Informatics (LIPICs) series. LIPICs proceedings are available online and free of charge to readers. The production costs are paid in part from the conference budget.



The review process was done using HotCRP. The Best Paper Award was awarded to Ittai Abraham, Kartik Nayak and Nibesh Shrestha for their paper titled “Optimal Good-case Latency for Rotating Leader Synchronous BFT”. The Best Student Paper Award was given to Gabriel Le Boudier for his paper titled “Optimal Space Lower Bound for Deterministic Self-Stabilizing Leader Election Algorithms”, co-authored with Laurent Feuilloley and Lélia Blin.

This year OPODIS had three distinguished invited keynote speakers: Nathalie Bertrand (INRIA, Rennes), Petr Kuznetsov (INFRES, Telecom Paris, Institut Polytechnique de Paris) and Robbert van Renesse (Cornell University, Ithaca, NY, USA).

Thank you to all the authors that submitted their work to OPODIS. We are also grateful to the Program Committee members for their hard work reviewing papers and their active participation in the online discussions and the Program Committee meeting. We also thank the external reviewers for their help with the reviewing process.

Organizing this event would not have been possible without the help of the Networks Team of the ICUBE Laboratory.

Finally, we thank the Steering Committee members for their valuable advice, as well as the sponsors and the University of Strasbourg for their support.

November 2021

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